UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

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PTOL-90A (Rev. 10/06)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>02 November 2006</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-13</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>10</u> is/are allowed.

6)☒ Claim(s) <u>1-9 and 11-13</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

- This action is responsive to the amendment filed on November 2, 2006.

- Claims 1-13 are pending. Claims 1, 7, and 11 have been amended.

Allowable Subject Matter

Claim 10 is allowed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 11, and 12 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Huang (US 5416849) in view of Zlotnick (US 6778703).

Regarding claim 1, Huang teaches a method for collecting reports of at least one

parameter (Huang, col 2, ln 18-20, form processing) comprising the following steps:

All in a central computer system (Huang, col 4, ln 62- col 5, ln 14, wherein

intelligent form processor #25 of fig 5, wherein processing may be centralized or split

into modules):

Automatically (Huang, col 4, ln 50-53, automate processes) receiving from any of

a plurality of arbitrary senders, via a publicly accessible transmission channel (Huang,

col 10, ln 1-9, fax and telephone line), an electronic representation of an image of any of

a plurality of physical forms, having at least two different layouts (Huang, col 11, ln 43-54, wherein the template must be selected, teaching there is more than one type of form, i.e. layout, stored in buffer #40 or intelligent forms processor #25 or buffer server #40'. Also see col 2, ln 21-23, wherein a template is generated for each form, reading on a plurality of forms), said representation being generated by a standard, conventional image-conversion device, the form having a plurality of data fields (Huang, fig 2c showing form example), each corresponding to an indicator, which may be alphanumeric, of at least a partial value of at least one of the parameters (Huang, col 7, ln 8-15, form comprises alphanumeric indicators and parameters);

Pre-storing an electronic representation of a template for each of the plurality of physical forms (Huang, col 11, ln 43-54, wherein the template must be selected, teaching there is more than one type of form, i.e. layout, stored in buffer #40 or intelligent forms processor #25 or buffer server #40'. Also see col 2, ln 21-23, wherein a template is generated for each form, reading on a plurality of forms. Also see Huang, col 11, ln 55-col 12, ln 50, wherein forms are generated and may be stored in Form Processing Template Definition Program #57A' of fig 5);

Automatically identifying the location of the data fields in the received representation of the image of the form by automatically comparing the received electronic representation of the image of the physical form with at least one of the pre-stored electronic representations of the plurality of templates (Huang, col 5, ln 22-36, use layout of received representation of image to compare with pre-stored electronic

representation to identify fields. See col 2, ln 21-23, wherein a template is generated for

each form, reading on a plurality of forms);

Automatically extracting from the identified data fields the at least partial values

of the corresponding parameters (Huang, col 6, ln 47-50, wherein data from fields are

extracted); and

Automatically storing the extracted values in a predetermined format in a memory

for subsequent processing (Huang, col 7, ln 44-col 8, ln 29, data is extracted and stored

in memory as extracted image file #10") as well as the representation of the received

physical form as it was received (Huang, col 6, ln 37-46, wherein image file of document

image #10' is stored in buffer).

Although Huang teaches identifying the physical form from the electronic

representation of its received image after a template is selected (Huang, col 11, ln 43-

54, after template is selected, each electronic representation is automatically identified),

Huang does not disclose expressly a method for collecting reports comprising

automatically and uniquely identifying the physical form from the electronic

representation of its received image. Zlotnick, however, teaches a method for collecting

reports comprising automatically and uniquely identifying the physical form from the

electronic representation of its received image (Zlotnick, col 2, ln 10-13, automatically

identifying which of a plurality of different form templates corresponds to a given form

document. Also see col 8, ln 59-67, automatically and uniquely identifying the physical

form from the electronic representation of its received image).

Huang and Zlotnick are combinable because they are from a similar field of
endeavor of automatic form processing. At the time of the invention it would have been
obvious to a person of ordinary skill in the art to combine the method of Zlotnick
comprising automatically identifying which of the plurality of form templates corresponds
to a given form document with the method of Huang comprising collecting reports in a
central computer system by automatically receiving a plurality of types of forms from a
plurality of senders via a standard communication device, pre-storing templates for each
form, automatically identifying the location of data fields from by comparing the received
form with the template, automatically extracting the identified data fields, and
automatically storing the extracted values. The motivation for doing so would have
been to accurately and quickly identify forms and templates for form processing while
allowing for a wide variety of forms to be input in any order (Zlotnick, col 1, ln 11-43).
Therefore, it would have been obvious to combine Zlotnick with Huang to obtain the
invention as specified in claim 1.

Regarding claim 2, which depends from claim 1, the combination of Huang and
Zlotnick teaches a method for collecting reports in which the electronic representation of
the image of the physical form is generated using a conventional facsimile machine,
whereby the transmission channel is a standard telephone line (Huang, col 10, ln 1-9,
wherein image may be input using fax via a standard telephone line).

Regarding claim 3, which depends from claim 2, the combination of Huang and
Zlotnick teaches a method for collecting reports further including the step of transferring
the stored extracted values to an external recipient via a network, all processing of the

physical form after transmission by the sender up to and including transfer to the

external recipient via the network thereby taking place automatically (Huang, col 10, ln

43-65, wherein extracted values #48 are sent to external recipient #32 along with

complete form image #10" over LAN #20 for error correction).

Regarding claim 11, claim 11 recites identical features as claim 1 except claim 11

is a system claim. Thus, arguments similar to that presented above for claim 1 are

equally applicable to claim 11. Applicant is further directed to Huang teaching intelligent

forms processor #25 of fig 5, i.e. a central server, fax and network adapter #320 (also

fig 5), i.e. I/O means, and form processing means #25 comprising various sub-modules

for form processing, as explained in claim 1.

Claim 12 recites identical features as claim 2 except claim 12 is a system claim.

Thus, arguments similar to that presented above for claim 2 are equally applicable to

claim 12.

Claims 4, 5, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Huang (US 5416849) in view of Zlotnick (US 6778703) and further in view of Al-

Hussein (US 5809167).

Regarding claim 4, which depends from claim 1, the combination of Huang and

Zlotnick teaches a method for collecting reports comprising, all in a central computer

system, automatically receiving the form from a plurality of senders, pre-storing an

electronic template for each of the forms, automatically identifying the physical form,

automatically identifying the location of the data fields, automatically extracting values

from the identified data fields, and automatically storing the extracted values and the

complete received image. The combination of Huang and Zlotnick does not disclose

expressly the method further comprising a method in which each data field indicates a

quantifiable or itemizable value of a corresponding one of the parameters, further

including the additional step of storing the received electronic representation of the

image of the physical form in the memory, whereby non-quantifiable and non-itemizable

entries by the user onto the physical form are made available for subsequent review.

Al-Hussein, however, teaches a method in which each data field indicates a quantifiable

or itemizable value of a corresponding one of the parameters, further including the

additional step of storing the received electronic representation of the image of the

physical form in the memory (Al-Hussein, col 7, In 44-51, individual characters are

extracted from text regions in the page and stored as a text file), whereby non-

quantifiable and non-itemizable entries by the user onto the physical form are made

available for subsequent review (Al-Hussein, col 10, 46-55, entire image, including non-

quantifiable and non-itemizable entries, is stored in memory and associated with text file

of extracted information. Upon searching the extracted text, it is possible to bring up

non-quantifiable information for subsequent review).

Huang, Zlotnick and Al-Hussein are combinable because they are from a similar

field of image processing over a network. At the time of the invention, it would have

been obvious to a person of ordinary skill in the art to combine the method of Al-

Hussein comprising storing the received image in memory, whereby non-quantifiable

and non-itemizable entries by the user onto the physical form are made available for

subsequent review with the method of Huang and Zlotnick comprising, all in a central computer system, automatically receiving the form from a plurality of senders, pre-storing an electronic template for each of the forms, automatically identifying the physical form, automatically identifying the location of the data fields, automatically extracting values from the identified data fields, and automatically storing the extracted values and the complete received image. The motivation for doing so would have been to reduce the possibility of inadvertently discarding information or misclassifying data. Additionally, the suggestion for doing so was given by Huang in fig 2D, wherein non-quantifiable and non-itemizable entries #45 are stored along with quantifiable and itemizable entries #15, for example, and wherein entries are made available for subsequent review, col 10, ln 52-54, for example. Therefore, it would have been obvious to combine Al-Hussein with the combination of Huang and Zlotnick to obtain the invention as specified in claim 4.

Regarding claim 5, which depends from claim 1, the combination of Huang, Zlotnick and Al-Hussein further teaches a method further including the step of storing recipient-entered annotations in the memory along with the stored extracted values of the respective received form (Al-Hussein, col 10, ln 40-55, entire image, including annotations, is stored in memory along with associated text file of extracted information. Upon searching the extracted text, it is possible to bring up non-quantifiable information for subsequent review. Huang and Al-Hussein are combinable for a similar reason as explained above in the rejection of claim 4).

Claim 13 recites identical features as claim 5 except claim 13 is a system claim. Thus, arguments similar to that presented above for claim 5 are equally applicable to claim 13.

Claims 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (US 5416849) in view of Zlotnick (US 6778703) and further in view of Shepard (US 4021777).

Regarding claim 6, which depends from claim 1, the combination of Huang and Zlotnick teaches a method for collecting reports comprising, all in a central computer system, automatically receiving the form from a plurality of senders, pre-storing an electronic template for each of the forms, automatically identifying the physical form, automatically identifying the location of the data fields, automatically extracting values from the identified data fields, and automatically storing the extracted values and the complete received image. The combination of Huang and Zlotnick does not disclose expressly a method further comprising associating at least two different physical forms with different senders, and automatically determining the identity of each sender based on the received image of the physical form. Shepard, however, teaches a method comprising associating at least two different physical forms with different senders, and automatically determining the identity of each sender based on the received image of the physical form (Shepard, col 5, ln 16-18, form with ID number is associated with a specific customer. The method as taught by Shepard comprises processing multiple

forms from multiple customers without a loss in operating efficiency, as seen in col 8, ln
44-53).

Huang, Zlotnick and Shepard are combinable because they are from a similar
field of endeavor of form processing. At the time of the invention, it would have been
obvious to a person of ordinary skill in the art to combine the method of Shepard
comprising associating forms with different senders and automatically determining the
identity of each sender based on the received image with the method of Huang and
Zlotnick teaching a method for collecting reports comprising, all in a central computer
system, automatically receiving the form from a plurality of senders, pre-storing an
electronic template for each of the forms, automatically identifying the physical form,
automatically identifying the location of the data fields, automatically extracting values
from the identified data fields, and automatically storing the extracted values and the
complete received image. The motivation for doing so would have been to organize the
system for multiple users and to reduce the burden of classifying from the operator.
Therefore, it would have been obvious to combine Shepard with the combination of
Huang and Zlotnick to obtain the invention as specified in claim 6.

Regarding claim 7, which depends from claim 6, the combination of Huang,
Zlotnick and Shepard teaches a method for collecting reports further comprising:

Automatically identifying the received forms by performing a best-fit comparison
of each received electronic representation of the image of one of the physical forms with
the stored electronic representations of the templates (Huang, col 22-36, wherein
layout, for example, is used to identify received forms with stored electronic

representation. A best-fit comparison is inherently performed, as evidenced by the
skew analysis information determined in col 7, ln 26-32, wherein even with skew in
received image, a best-fit determination of physical form is determined through
comparison. Also see Zlotnick, col 2, ln 38-52, best fit matching is performed to identify
the form and corresponding template, and see col 8, ln 63-67 teaching a best-fit
comparison).

Regarding claim 9, which depends from claim 1, the combination of Huang,
Zlotnick and Shepard teaches a method for collecting reports in which:

The electronic representation of the image of the physical form is generated
using a conventional facsimile machine (Huang, col 10, ln 1-9, fax machine);

The transmission channel is a standard telephone line (Huang, col 10, ln 1-9,
input via fax over telephone line);

At least one of the parameters is time and the physical form is a time sheet
(Shepard, col 5, ln 1-13, business form is a conventional time sheet comprising at least
one parameter that is time).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Huang
(US 5416849) in view of Zlotnick (US 6778703) and further in view of Luther et al. (US
5721940).

Regarding claim 8, which depends from claim 1, the combination of Huang and
Zlotnick teaches a method for collecting reports comprising, all in a central computer
system, automatically receiving the form from a plurality of senders, pre-storing an

electronic template for each of the forms, automatically identifying the physical form, automatically identifying the location of the data fields, automatically extracting values from the identified data fields, and automatically storing the extracted values and the complete received image. The combination of Huang and Zlotnick does not disclose expressly a method for collecting reports in which the step of automatically identifying the location of the data fields comprises the following sub-steps: storing an electronic representation of a template of each of a plurality of physical forms; automatically identifying each received form by performing a best-fit comparison of each received electronic representation of the image of the corresponding physical form with the stored electronic representations of the templates; automatically registering the received electronic representation of the received physical form image with the best-fit electronic template representation; and matching the data fields in the received electronic representation of the received physical form image with corresponding data fields in the best-fit electronic template representation. Luther, however, teaches a method for collecting reports in which the step of automatically identifying the location of the data fields comprises the following sub-steps:

Storing an electronic representation of a template of each of a plurality of physical forms (Luther, col 4, ln 23-30, wherein templates of each form are included in a form dictionary. Also see Huang, col 2, ln 21-23, wherein a template is generated for each form, reading on a plurality of forms, and suggestion combination with Luther);

Automatically identifying each received form by performing a best-fit comparison of each received electronic representation of the image of the corresponding physical

form with the stored electronic representations of the templates (Luther, col 7, ln 5-20,

wherein completed form profile is profile of received form, and completed form profile is

compared with a form in the form dictionary. If there is a predetermined level of

invariant elements reached, i.e. there is a best match, then the received form is

identified to match a template. Also see Zlotnick, col 2, ln 10-13, automatically

identifying which of a plurality of different form templates corresponds to a given form

document. Also see col 8, ln 59-67 of Zlotnick, teaching automatically and uniquely

identifying the physical form from the electronic representation of its received image.

The best-fit comparison of Zlotnick suggests combination with Luther);

Automatically registering the received electronic representation of the received

physical form image with the best-fit electronic template representation (Luther, col 7, ln

17-19, wherein received form is registered with best-fit template); and

Matching the data fields in the received electronic representation of the received

physical form image with corresponding data fields in the best-fit electronic template

representation (Luther, col 5, ln 10-34, wherein the form of fig 4a is scanned in and a

form profile is made to characterize the data fields of the blank form in fig 4b. In col 6,

ln 48-58, wherein when a completed form is received as shown in fig 6, the completed

form is characterized as shown in fig 8a to identify the data fields. To identify the form,

the characteristics of the data fields for the blank form and completed form are matched

in a best fit manner, col 7, ln 5-13).

Huang, Zlotnick and Luther are combinable because they are from a similar field

of endeavor of for processing. At the time of the invention, it would have been obvious

to a person of ordinary skill in the art to combine the method of Luther comprising

storing a template for each physical form, identifying each received form by performing

a best-fit comparison, registering the received form with the best-fit template, and

matching the data fields in the received form with the corresponding data fields in the

template with the method of Huang and Zlotnick teaching a method for collecting reports

comprising, all in a central computer system, automatically receiving the form from a

plurality of senders, pre-storing an electronic template for each of the forms,

automatically identifying the physical form, automatically identifying the location of the

data fields, automatically extracting values from the identified data fields, and

automatically storing the extracted values and the complete received image. The

motivation for doing so would have been to reduce the time consumption and cost of

data entry and retrieval (Luther, col 2, ln 8-13). Therefore, it would have been obvious

to combine Luther with Huang to obtain the invention as specified in claim 8.

Response to Arguments

Applicant's arguments, see Remarks, page 9, filed November 2, 2006, with

respect to the rejection(s) of claim(s) 1 and 11 under 35 U.S.C. 102 have been fully

considered and are persuasive in part. On Page 9, Applicant's argues that the template

of Huang must be selected by the user before processing and accordingly Huang does

not read on the limitation of "automatically and uniquely identifying the physical form

from the electronic representation of its received image". While conceding that Huang

performs this identification manually, the examiner notes that based on the mere fact

that because the processing is automatic, that is not enough to distinguish it from the

prior art. See MPEP 2144.04. See also In re Venner, 262 F.2d 91, 95, 120 USPQ 193,

194 (CCPA 1958). The court held that broadly providing an automatic or mechanical

means to replace a manual activity, which accomplished the same result, is not

sufficient to distinguish over the prior art.   Additionally, Applicant argues on page 9 that

Huang's processing method operates with only one available template at a time. The

examiner respectfully disagrees, citing Huang at col 11, ln 43-54, wherein the template

must be selected, teaching there is more than one type of form, i.e. layout, stored in

buffer #40 or intelligent forms processor #25 or buffer server #40'. Also see Huang at

col 2, ln 21-23, wherein a template is generated for each form, reading on a plurality of

forms. In light of these arguments but despite the Venner ruling, the rejection has been

withdrawn. However, upon further consideration, a new ground(s) of rejection is made

in view of Zlotnick (US 6778703).

Regarding Applicant's arguments on pages 10-11, a similar argument as

explained above applies.

On page 12, Applicant argues it is not obvious or practical to combine the

teachings of Shepard and Huang. In response to applicant's argument, the examiner

recognizes that obviousness can only be established by combining or modifying the

teachings of the prior art to produce the claimed invention where there is some

teaching, suggestion, or motivation to do so found either in the references themselves

or in the knowledge generally available to one of ordinary skill in the art. See In re Fine,

837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and In re Jones, 958 F.2d 347, 21

USPQ2d 1941 (Fed. Cir. 1992). In this case, the references are combinable by the

nature of the problem to be solved, namely automatically extracting data from electronic

representations of forms. Additionally, on pages 11 and 12, Applicant argues a literal

combination of the systems of Huang and Shepard would not function, while examiner

points out the systems are only combined as discussed above in the rejection of claims

6, 7, and 9.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dillon J. Murphy whose telephone number is (571) 272-5945. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DJM
January 17, 2007

AUNG MOE
PRIMARY EXAMINER